December 2006 from two regional hospitals were studied.

Results: More than half of these cases were females (45/76, 59%). The mean ages of male and female patients were 43 (median: 41, range: 4—78) and 45.8 (median:49, range: 10—82). The mean hospital stay was 6.4 days. Clinical manifestations were fever (62/76, 82%), malaise (37/76, 49%), skin rashes (37/76, 49%), bone pain/arthralgia (35/76, 46%), anorexia (33/76, 43%), pruritus (33/76, 43%), headache (25/76, 33%), nausea (21/76, 28%), diarrhea (21/76, 28%), vomit (20/76, 26%), hemorrhage (17/76, 22%), skin pain (15/76, 20%), abdominal pain (14/76, 18%), retro-orbital pain (12/76, 16%), conjunctivitis (10/76, 13%). Positive results for RT-PCR occurred in 38 of 76 patients (50%). Serotype 3 was the major causative strain. Prolonged partial thromboplastin time was observed in 44 of 76 patients (58%), while elevation of aspartate aminotransferase was observed in 69 of 76 patients (91%). Thrombocytopenia occurred in 65 of 76 patients (86%) and 32 of them (49%) had severe thrombocytopenia (less than 50,000/mm^3), while 65 of 76 patients (86%) were leukopenic and 28 of them (43%) had severe leukopenia (white blood cells ranged from 1,000 to 2,000/mm^3). The average duration of peak body temperature to normal was 3.1 days. The mean intervals of leukopenia and thrombocytopenia were 2.5 days and 2.6 days respectively. All patients recovered except an old man with previous exposure to dengue virus died of acute fulminant hepatitis.

Conclusion: Dengue fever occurred predominantly in females, fever was the major manifestation. Most of the patients contracted hepatitis, leukopenia and thrombocytopenia. Clinical outcome was satisfactory.

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16.025

The Changing Profile of Circulating HCV Genotypes in Romania

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Background: A high seroprevalence of HCV infection (4.8% in the general population) is reported in Romania. Limited available data on the viral subtypes' distribution indicate genotype 1b as dominant. In order to promptly detect any changes in the genetic composition of the epidemic, a survey on the recent profile of circulating HCV genotypes in this region and their association with transmission risk factors was conducted.

Methods: Genotyping was performed using in house Rt-PCR for 5′UTR, followed by RFLP analysis. Viral genotype was confirmed by sequencing of Core and NS5B PCR products and phylogenetic analysis. Results were compared with those obtained by commercial Line Probe Assay (Innogenetics).

Results: 108 samples with high viral loads were collected from HCV infected patients, representative for all age groups and geographic regions of the country. Concordant results were obtained by the commercial and "in house" genotyping methods for all tested samples. Genotype 1b was found in 77,7% of the samples, genotype 1a in 18,5% of the samples and genotypes 3a and 4a each in 1.8% of the samples. Even if the commercial kits are credited with little accuracy in identifying inter/intragenotype recombinants, they showed good discrimination capacity between genotypes 1b and 1a. Genotype 1b was the only one found in women aged 40—60 years old, with chronic hepatitis C diagnosed more than 10 years ago and a history of blood transfusions received during surgical interventions; while the other 3 genotypes were detected in younger patients (aged 17—35 years), with recently identified hepatitis C infection, mainly associated with a history of intravenous drug use during the preceding 5 years.

Conclusions: The recent introduction of new HCV genotypes in Romania stimulate a continuous epidemiological surveillance, suggesting shifts in the transmission pathways, with the possible emergence of recombinants in people with multiple infections.

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16.026

A Rubella Outbreak Among Foreign Workers in Taiwan

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Background: Since two doses of MMR vaccine were included in the Expended Program on Immunization (EPI) in 1992, the incidence of rubella and CRS has decreased greatly in Taiwan. In recent years, imported cases have accounted majority of confirmed cases. This report describes a large rubella outbreak happened among foreign workers in Taoyuag county in Taiwan.

Methods: We implemented an investigation including patient characteristics; laboratory test and contact tracing. Control measures included symptoms surveillance, isolation of symptomatic contacts, and mass immunization. We also informed physicians in nearby communities to report any case with rash illness.

Results: The index case, a 20 year-old male Vietnamese, was reported on June 25, 2007. He just entered Taiwan to work for a construction company on April 19. He lived in a dormitory with other 485 male foreign workers. Till July 14, 44 suspected cases were reported. Twenty-three (52%) were laboratory confirmed (all positive rubella IgM) and the attack rate was 4.7%. Among confirmed case, the median age was 25 years (range: 20-33 years); all male and unvaccinated Vietnamese workers. For workers who didn't have symptoms in previous two months, we vaccinated one-dose MMR for them. Totally 264 doses were administered. No other rubella case was noted in nearby communities during the surveillance period.

Conclusion: This was the largest rubella outbreak among foreign workers in Taiwan. It probably originated from a

patient acquired this infection abroad and spread to another susceptible foreign workers in a crowded environment. Fortunately, it didn't spread to nearby communities probably due to the high immunization coverage rate. In recent years, the numbers of workers from Southeast Asia where have only introduced rubella into vaccination programs have increased steadily. To prevent rubella in Taiwan, we suggest foreign workers should show proof of previous MMR vaccination or receive MMR vaccine before immigration.

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16.027

Historical Analysis of the 1889—1890 Pandemic in Europe

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Background: Numerous studies have investigated the 1918 pandemic ("Spanish flu") during the past years, with the implicit hypothesis that it could be a model of a possible future pandemic. By contrast very little is known on the pandemic that occurred 30 years before, in 1889—1890 (the "Russian flu").

Data, Methods: We have retrieved a report to the French Ministry of Health published in 1891 which gives the weekly death rates in 33 European cities from Russia, eastern and western Europe between November 2, 1889 and February 8, 1890. The base mortality was defined as the mean values of the 2 first and 2 last weeks for each of the 33 cities. The size and timing of the peak values were computed. The rate of the exponential burst in each city was used to compute the reproduction rate, assuming a generation time of 3 days.

Results: The spread of the pandemic was extremely rapid, with a starting point at St Petersburg (peak date = December 7. 1889). The UK and Scottish cities were hit only 6 weeks later. The mean speed of the front wave was approximately 300 Km/Week. The mean basic reproduction rate was 2.15 (range: 2.04—2.32). The mean peak value of the mortality curves was +105% above the base value (range 10%: Christiania to 221%: Brunn). The highest reproduction rates were observed at Stuttgart, St Petersburg, and Amsterdam.

Conclusion: The rapid dissemination of the influenza in the late 19th century shows unequivocally that even if feasible, the limitation of air transportation in case of a pandemic would be ineffective. The *R* values of the 1889—1890 epidemic are in line with those of the 1918 pandemic, which supports the use of R values around 2 in prospective models of the pandemic.

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16.028

Influenza B Outbreak among Influenza-vaccinated Welfare Home Residents in Tropical Singapore

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Background: Influenza has a major impact on residents of long-term care facilities. Most outbreaks have been caused by influenza A. Very few influenza B outbreaks have been documented; most of which have been reported in temperate countries. In March 2007, an influenza B outbreak occurred among a highly immunized population in a welfare home in tropical Singapore. The study objective was to explore the clinical and laboratory features of the infection and determine the possible reason for the outbreak.

Methods: A retrospective study was conducted on staff and residents from the Home who presented with respiratory illness (RI) from 16—28 March 2007. Epidemiologic, vaccination, clinical and laboratory data were collected.

Results: Of 180 residents and 30 staff from the Home, 17 residents (clinical attack rate 9.4%) and two staff (clinical attack rate 6.7%) had RI. 13 Residents were hospitalised. Nevertheless, none of the staff need hospital admission. Most of the hospitalised residents had mild illness and were discharged within a week. However, two suffered from severe complications including lung abscess and bacteraemia respectively. All except one person from the Home were vaccinated with the trivalent influenza vaccine eight months earlier. Although all who had RI had been vaccinated, influenza B was identified in six of them. Genetic studies revealed that the strain that caused the infection was closely related to B/Houston/B720/2004, which had a 8.2% amino acid difference from the vaccine strain B/Malaysia/2506/2004.

Conclusion: The antigenic drift in the circulating influenza B strain is the probable cause of the outbreak. This outbreak underscores the importance of continual surveillance even in a highly vaccinated population. In population living in confined settings, RI surveillance plays a crucial role in early influenza outbreak detection, even in a tropical country like Singapore.

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16.029

Impact of Universal Hepatitis B Vaccination on the Prevalence of HBs and HBe Antigenemia Among Pregnant Women in Taiwan

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Background: Vertical transmission represented 40—50% of hepatitis B virus (HBV) acquisition in Taiwan, a hyperendemic area. In 1984, Taiwan implemented universal newborn HBV immunization, and routine screening for hepatitis B surface antigen (HBsAg) and hepatitis B e antigen